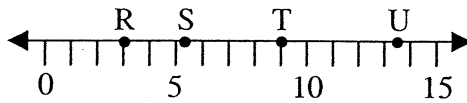


**Algebra 1**  
**Quarterly Assessment**  
**1<sup>st</sup> Nine Weeks**

1. The power output of a nuclear reactor is  $2.4 \times 10^7$  watts. Which number expresses the same value in standard notation?
  - a. 2,400,000 watts
  - b. 9,400,000 watts
  - c. 16,800,000 watts
  - d. 24,000,000 watts
  
2. Which set of real numbers is arranged in ascending order?
  - a.  $\frac{4}{3}$ , 1.33,  $\sqrt{18}$ , 1.03
  - b. 1.03,  $\frac{4}{3}$ , 1.33,  $\sqrt{18}$
  - c.  $\sqrt{18}$ ,  $\frac{4}{3}$ , 1.33, 1.03
  - d. 1.03, 1.33,  $\frac{4}{3}$ ,  $\sqrt{18}$
  
3. The fourth root of 146 is between what two integers?
  - a. 12 and 13
  - b. 3 and 4
  - c. 36 and 37
  - d. 145 and 147
  
4. Alex made a wooden cube in shop class that has a volume of  $2000.376 \text{ cm}^3$ . How long is one of the sides of the cube?
  - a. 44.7 cm
  - b. 666.8 cm
  - c. 12.6 cm
  - d. 1000.2 cm

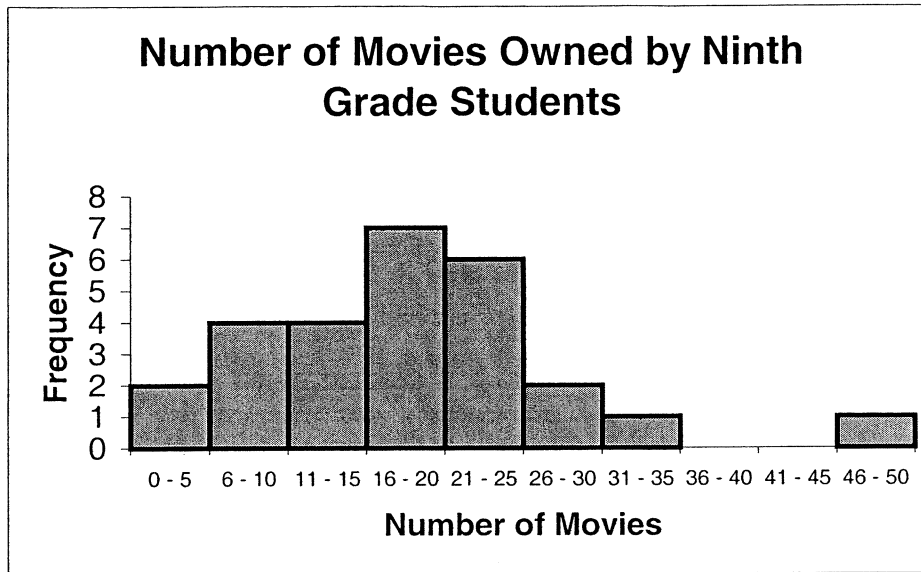
5. The figure shows four points on the number line.



Which point represents  $\sqrt{27}$ ?

- a. R
  - b. S
  - c. T
  - d. U
6. The area of Texas is  $6 \times 10^5 \text{ mi}^2$ . The area of Delaware is  $1.5 \times 10^3 \text{ mi}^2$ . What is the total area of the two states?
- a.  $7.5 \times 10^8$
  - b.  $6015 \times 10^2$
  - c.  $7.5 \times 10^5$
  - d.  $6.015 \times 10^5$
7. The set of real numbers can be broken into 2 separate categories. What are the 2 categories?
- a. natural numbers and whole numbers
  - b. rational numbers and irrational numbers
  - c. integers numbers and rational numbers
  - d. integers numbers and natural numbers
8. Which number is not a perfect square?
- a. 196
  - b. 100
  - c. 50
  - d. 81
9. For a particular survey, the population that is of interest is the percent of the people living in the United States that are less than 45 years of age. Which of the following samples is most likely to be representative of the population of the United States?
- a. retirement village in Florida
  - b. a college English class
  - c. a Fourth of July parade
  - d. a day care facility

The students in Mr. Lyons' ninth grade homeroom recorded how many movies each student owns. The data was organized in the histogram below. Using the histogram, answer questions 10 and 11.



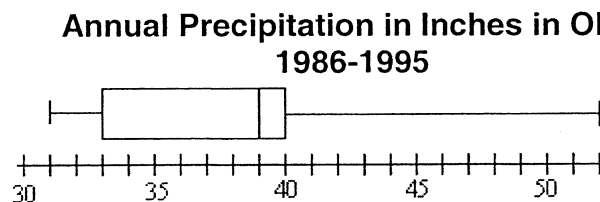
10. How many students own at least 21 movies?

- a. 10
- b. 6
- c. 17
- d. 9

11. Between what two consecutive intervals does the greatest decrease occur?

- a. 11-15 and 16-20
- b. 21-25 and 26-30
- c. 26-30 and 31-35
- d. 31-35 and 36-40

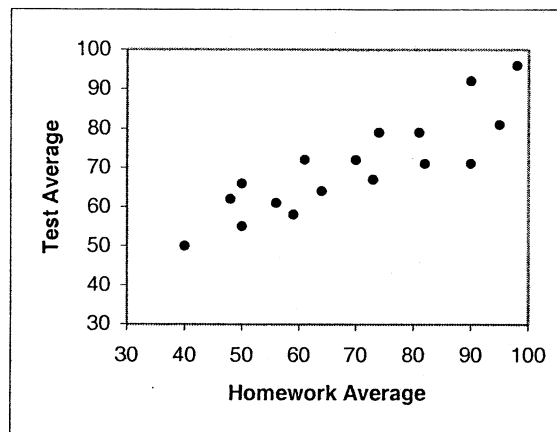
12. This box-and whisker plot represents the average annual precipitation in Ohio over a ten-year period.



Which of these is the median rainfall for the ten-year period?

- a. 35.5 inches
- b. 39.1 inches
- c. 40.0 inches
- d. 42.6 inches

13. The scatter plot below compares the homework average and test average of students in a sophomore English class. Which of the following statements is true?



- a. If you do your homework you will have a lower test score.
- b. There appears to be a negative correlation between homework average and test average.
- c. There appears to be positive correlation between homework average and test average.
- d. There is one point at (50, 90).
14. A basketball team, the Hillbrook Vikings, scored the following points during the first five games of the season:
- 70, 85, 60, 60, 80
- During the sixth game, the Vikings played a much better opponent and scored only 10 points. Which of these will change the most as a result of the score in the sixth game?
- a. the mean of the data
- b. the median of the data
- c. the mode of the data
- d. the range of the data
15. Which expression is equivalent to  $3(x + 2)$ ?
- a.  $3x + 6$
- b.  $3x + 2$
- c.  $3x + 5$
- d.  $x + 6$

16. The cost of shipping a box is calculated with the equation  $c = \frac{2}{5}w + 5$  where  $c$  represents the cost in dollars and  $w$  represents the weight of the box in pounds. Alex knows that his box weighs at least eight pounds. What is the minimum cost of shipping the box?
- \$37.00
  - \$8.20
  - \$5.40
  - \$3.20
17. For the set of real numbers, solve for  $x$ :  $x^2 - 5 = 0$
- 5
  - 2.5
  - $\pm\sqrt{5}$
  - $\pm\sqrt{2.5}$
18. Sandy spends her weekends babysitting. She determines an equation to find her earnings to be  $y = 15x + 25$ , where  $y$  represents the amount she earned and  $x$  represents the number of hours she worked. How many hours must she work if she wants to earn \$175?
- 10
  - 13.3
  - 11.7
  - 4.4
19. What is the solution of the equation  $8x - 24 = 10(x + 3)$ ?
- 27
  - 27
  - 3
  - $-\frac{1}{3}$
20. If  $v = V + gt$ , what is the value of  $t$  when  $v = 116$ ,  $V = 20$ , and  $g = 32$ ?
- 3732
  - 96
  - 64
  - 3

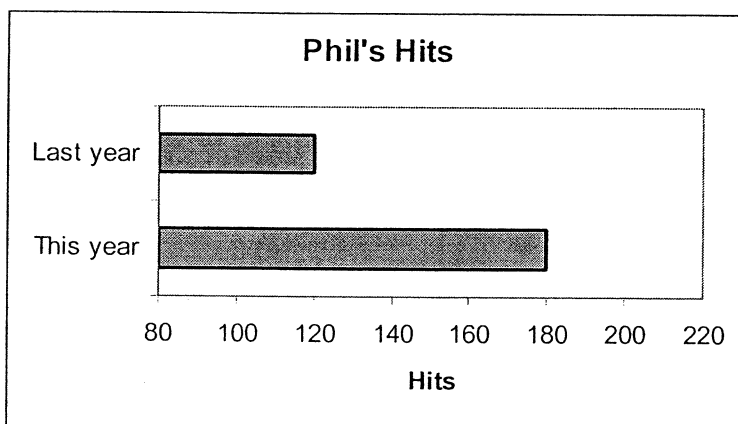


**Short Answer – 2 points each**

1. Sally earned the following scores on her first 4 tests: 85, 98, 92, 87. She is about to take her 5<sup>th</sup> and final test. If she wants to have an average of 91, what grade must she earn on her final test?

2. “Just look at the graph,” the player’s agent said. “Phil’s hits have doubled since last year. We are looking for a large raise and a long contract.”

Look at the graph. Is the agent’s claim correct? Justify your answer.



---

---

---

---

---

3. On a recent algebra test, Sandra solved the equation  $7x - (2x - 10) = 50$  incorrectly. Examine her work below and identify her error. Fix the error and solve the equation from that point.

$$7x - (2x - 10) = 50$$

$$7x - 2x - 10 = 50$$

$$5x - 10 = 50$$

$$5x = 60$$

$$x = 12$$

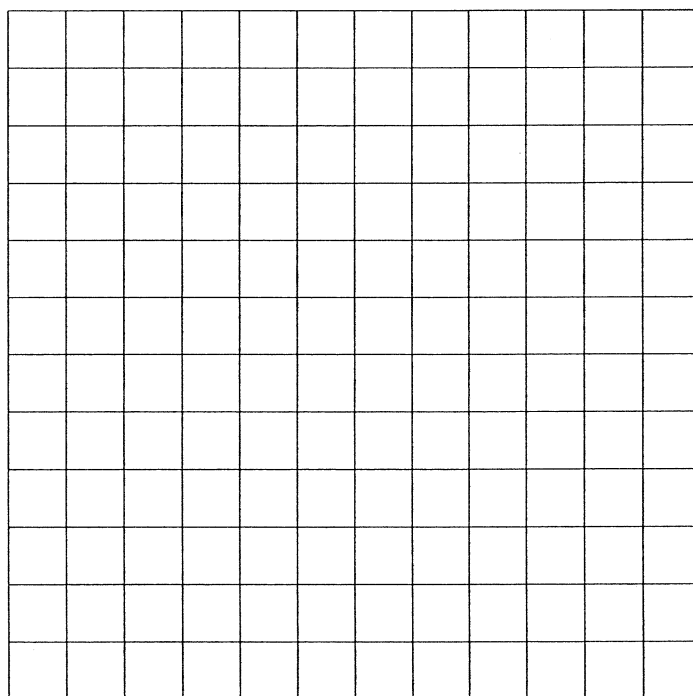
**Extended Response – 4 points each**

4. Steve is planting crops in two gardens. He needs to find the area of each garden to determine how much seed will be needed. The first garden is a rectangle with dimensions of 10 feet by 15 feet. The second garden is also a rectangle, but the length is twice as long as the first and the width is three times as long as the first. Draw a sketch of each garden with the lengths and widths labeled and find the area for each.

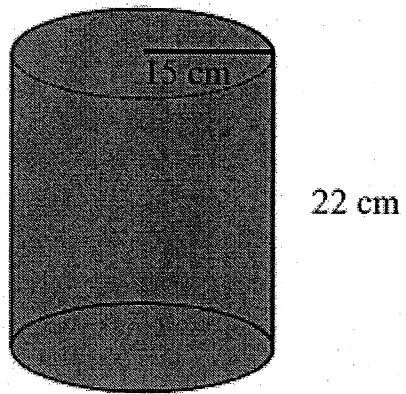


5. Create a scatter plot for the data and sketch the line of best fit. Interpret the correlation of the scatter plot as it relates to this set of data.

Height in Inches	Shoe Size
59	6.5
71	11.5
57	4.0
72	10.5
64	9.5
60	5
64	7



6. Find the Surface Area and the Volume of the cylinder below:



SA =

V =